1.) A method of forming media strands comprising: combining a greater portion by weight of a water-soluble polymer with a lesser portion by weight of a selected cross-linking chemical agent with remainder by weight being water into a combined compound capable of preventing the polymer of said water-soluble polymer from dissolving in water including an ambient humid environment; electrospinning said compound at selected high voltage to emit nanofibers of sufficient strength and flexibility to permit media shaping; and, collecting said nanofibers on a selected substrate.

2.) The method of forming media strands of Claim 1, wherein said greater portion by weight of a water-soluble polymer comprises approximately three (3) to fifty (50) percent of said combined compound and said selected cross-linking chemical agent comprises a lesser portion range by weight of a di-aldehyde approximately zero point one (0.1) to twenty (20) percent (%) of the total compound with the balance by weight being water.

3.) The method of forming media strands of Claim 1, wherein said greater portion by weight of a water-soluble polymer comprises approximately three (3) to fifty (50) percent of said combined compound and said selected cross-linking chemical agent comprises a lesser portion range by weight of an acid approximately zero point one (0.1) to twenty (20) percent (%) of the total compound with the balance by weight being water.

4.) The method of forming media strands of Claim 1, wherein said compound is in liquid form.

5.) The method of forming media strands of Claim 2, wherein said compound liquid is cross-linked in acidic condition.

6.) The method of forming media strands of Claim 1, wherein said cross-linking chemical agent is Glyoxal ($C_2H_2O_2$).

8.) The method of forming media strands of Claim 1, wherein said cross-linking chemical agent is Glutaraldehyde ($C_5H_8O_2$).

9.) The method of forming media strands of Claim 1, wherein said cross-linking chemical agent is Maleic acid ($C_4H_4O_4$).

10.) The method of forming media strands of Claim 1, wherein said cross-linking chemical agent is Borax ($B_4N_{a2}O_7$).

11.) The method of forming media strands of Claim 1, wherein said water-soluble polymer is polyvinyl alcohol.

12.) The method of forming media strands of Claim 1, wherein said cross-linking agent forms three dimensional submicroscopic structural molecules.

13.) The method of forming media strands of Claim 1, wherein said electrospinning high voltage is in the approximate range of three (3) to one hundred (100) kilovolts.

14.) The method of forming media strands of Claim 13, wherein said electrospinning high voltage advantageously is approximately fifteen (15) kilovolts.

15.) The method of forming media strands of Claim 1, wherein said electrospinning includes passing said combined compound from a storage zone to a pumping zone; pumping said material through an electrically insulated zone to a high voltage capillary feeding zone to emit media strands within selected fiber ranges; and, passing said emitted fibers to a substrate in a collecting zone.

16.) The method of forming media strands of Claim 15, wherein said emitted strands are nanofibers in the approximate range of zero point zero zero eight (0.008) to twenty (20) cubic centimeters per minute.

17.) The method of forming media strands of Claim 16, wherein said emitted strands are nanofibers advantageously zero point six (0.6) cubic centimeters per minute.

18.) The method of forming media strands of Claim 15, wherein said electrically insulated zone includes porous insulating material of polytetrafluroethylene (Teflon™).

19.) The method of forming media strands of Claim 15, wherein said substrate is movably mounted on a grounded collector.

20.) The method of forming media strands of Claim 1, wherein said nanofibers are emitted from at least one sharp tip source in the approximate range of zero point one (0.1) to three (3) millimeters.

21.) The method of forming media strands wherein said strands are warmed by a heating source at approximately sixty (60) degrees centigrade (°C) to reduce surface tension.

22.) A method of forming nano fiber filter media comprising: combining a greater portion by weight of approximately three (3) to fifty (50) percent percent of water soluble polymer such as polyvinyl alcohol with a lesser portion by weight of a cross-linking chemical agent of approximately zero point one (0.1) to twenty (20) percent (%) of the total compound with the balance by weight being water having a three dimensional submicroscopic structural molecules selected to prevent the polymer of said water soluble polymer from dissolving in water including partially dissolution in an ambient humid environment, said cross-linking chemical agent being a compound such as Glyoxal ($C_2H_2O_2$) with selected quantities of said combined compound with the balance by weight being water being placed in a storage zone;

passing said selected quantities of said combined compound at controlled pressure to a pumping zone including a set of spaced parallel fine gear pumps arranged to pump fine streams of filter media strands surrounded by spaced insulating material through a porous electrically insulated zone advantageously formed from polytetrafluroethylene (PTFE-Teflon™) into a high voltage capillary feeding zone including spaced metal capillary tubes such as copper charged by high voltage generation in the voltage range of three (3) to one hundred (100) kilovolts so as to emit nanofibers filter strands from a source in the approximate range of zero point one (0.1) to three (3) millimeters and at a volume in the range of zero point zero zero eight (0.008) to twenty (20) cubic centimeters per minute; and, passing said nanofiber filter strands from said source warmed to approximately sixty (60) degrees centigrade (°C) to a porous filter media substrate such as a selected porous paper sheet moveable, mounted on a grounded rotatable drum in a collector zone.

23.) Apparatus for forming media strands comprising: storage means to receive a media forming compound of a water-soluble polymer combined with a cross-linking agent to prevent the polymer from dissolving in water, said storage means including at least one storage inlet to receive said media forming compound and at least one valved outlet; pumping means having at least one pumping inlet communicably connected to said valved outlet of said storage means to receive said media, forming compound, said pumping means having at least one pump outlet from which said media forming compound received by said pumping means can be pumped as at least one media stream under selected pressure; energy conductive capillary tube means having at least one inlet to receive said media stream from said pumping means and at least one outlet to emit said media stream as a thin reduced media stream of selected cross-sectional area; energy generating means communicably connected to said energy conductive

capillary tube means to apply a selected energy charge to said capillary means; insulating means positioned between said pumping means and said capillary tube means to insulate said media stream as it passes from said pumping means to said capillary tube means; and, collecting means to receive said thin reduced emitted media stream from said capillary tube means.

24.) The apparatus for forming media strands of Claim 23, said storage means being in the form of a tank including a material inlet and a truncated valve controlled outlet at one extremity thereof opposite said storage inlet.

25.) The apparatus for forming media strands of Claim 23, said energy conductive capillary means being of electrically conductive material and said energy generating means being a high voltage generator.

26.) The apparatus for forming media strands of Claim 25, said high voltage generator being capable of delivering said high voltages in the approximate range of three (3) to one hundred (100) kilovolts.

27.) The apparatus for forming media strands of Claim 25, said high voltage generator being capable of delivering said high voltage advantageously at approximately fifteen (15) kilovolts.

28.) The apparatus for forming media strands of Claim 23, said energy conductive capillary tube means advantageously being of highly conductive copper (C_u) material.

29.) The apparatus for forming media strands of Claim 23, said energy conductive capillary tube means advantageously being of highly conductive silver material.

30.) The apparatus for forming media strands of Claim 23, said energy conductive capillary tube means advantageously being of highly conductive stainless steal material.

31.) The apparatus for forming media strands of Claim 23, said energy conductive capillary tube means being of elongated tubular form with said capillary tube outlet size being in the approximate range of zero point one (0.1) to three (3) millimeters.

32.) The apparatus for forming media strands of Claim 23, said pumping means including a motor driven meshing gear system capable of mixing and reducing said strand forming compound received thereby into a thin stream of selected cross-section and under selected pressure as said thin stream is passed from said pump outlet.

33.) The apparatus for forming media strands of Claim 32, said selected pressure being slightly higher than atmospheric pressure.

34.) The apparatus for forming media strands of Claim 23, said insulating means being a porous poly fluro ethylene material (PTFE-Teflon™).

35.) The apparatus for forming media strands of Claim 23, said collecting means including a motor driven movable collecting member and a substrate member movable thereover.

36.) The apparatus for forming media strands of Claim 35, said movable collecting member being a grounded cylindrical drum.

37.) The apparatus for forming media strands of Claim 36, said substrate member being a selected sheet of porous media.

38.) Apparatus for forming thin fibrous filter media comprising: a vertically extending cylindrical storage tank having a material inlet at the upper portion thereof to receive a strand forming compound of a water-soluble polymer chemically combined with a cross-linking agent to prevent the polymer from dissolving in water, said tank having a downwardly truncated tank outlet at the lower portion thereof with a valve control member therefor; a pressure leveling tank

positioned below said storage tank including a level switch communicating with said valve control member to maintain a selected material level in said level tank; a set of spaced vertically extending capillary tubes extending below and communically connected to said pressure level tank, each of said tubes having an opposed upper chemical compound inlet and a lower outlet to deliver a chemical compound filter media fiber therefrom with a cross-sectional diameter in the range of zero point one (0.1) to three (3) millimeters, each of said capillary tubes being connected to said leveling tank outlet through a conduit member having a gear pump in the form of a pair of opposed meshing gears capable of delivering reduced chemical compound filter strands therefrom at slightly higher than atmospheric pressure, each of said nanofiber filter strands having a plastic tubing electrical insulating collar extending in spaced relation therearound from the outlet of said gear pump, to beyond the filter fiber upper inlet of a capillary tube; a horizontally extending porous electrical insulating sheet of polytetrafluroethylene (PTFE-Teflon™) extending between said spaced gear pumps and the upper inlets of said spaced capillary tubes with each of said filter strand plastic tubing electrical insulating collars extending therethrough; a high voltage electrical generator connected to each of said copper capillary tubes capable of applying a voltage to each of said tubes in the range of approximately three (3) to one hundred (100) kilovolts and advantageously fifteen (15) kilovolts; and, a motor driven rotatable grounded metal collector with the longitudinally axis thereof horizontally extending in spaced relation below said spaced capillary tube outlets to receive said thin nanofiber filter strands therefrom, said drum collector having a substrate of selected porous paper material movably passable thereover to receive said nano fiber strands from the outlets of said spaced capillary tubes.

39.) A nanofiber media chemical compound comprised of a greater portion by weight of a water-soluble polymer and a lesser portion by weight of a cross-linking chemical agent selected to prevent the polymer of said water-soluble polymer from dissolving in water including an ambient humid environment with the major portion of said chemical compound being water.

40.) The nanofiber media of Claim 39, said media being formed by electrospinning.

41.) The nanofiber media of Claim 40, said media being approximately three (3) to fifty (50) percent by weight of water soluble polymer and approximately zero point one (0.1) to twenty (20) percent (%) by weight of said cross-linking chemical agent with the balance being acidic water by weight.

42.) The nanofiber media of Claim 39, said water-soluble polymer being a polyvinyl alcohol.

43.) The nanofiber media of Claim 39, said cross-linking agent being Glyoxal ($C_2H_2O_2$).

44.) The nanofiber media of Claim 39, said cross-linking agent being Glutaraldehyde ($C_5H_8O_2$).

45.) The nanofiber media of Claim 39, said cross-linking agent being Maleic acid ($C_4H_4O_4$).

46.) The nanofiber media of Claim 39, said cross-linking agent being Borax ($B_4N_{a2}O_7$).

47.) The nanofiber media of Claim 39, said chemical compound fiber being a filter fiber applied to a porous filter substrate.